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| 10/536,669 | 05/27/2005 | Kazumi Nakayoshi | 71,051-009 | 4704 |

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EXAMINER

LOEWE, ROBERT S

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

02/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/536,669

Applicant(s)

NAKAYOSHI ET AL.

Examiner

Robert Loewe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 4/17/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is unclear what is meant by the limitation "shocking". No working definition is provided in the specification.

Claims 13 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 13 and 17 recite the limitation "initiator". There is insufficient antecedent basis for this limitation in the claim. For purposes of further examination, this limitation will be interpreted as --inhibitor--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogawa et al. (JP 58-104970). For convenience, the certified English-language translation provided by the McElroy translation company will be relied upon. All citations herein below refer to the translated document.

Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Please note MPEP 2113, which addresses the appropriateness of a rejection under 35 U.S.C. 102/103 for product-by-process claims.

Ogawa et al. teaches a silver-based powder which is surface treated with a triazole-based compound/oxidation inhibitor (claims 1-2, top of page 2).

Claims 1-2 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogawa et al. (JP 58-103565), herein referred to as Ogawa A et al. to avoid confusion.

Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ

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964, 966 (Fed. Cir. 1985). Please note MPEP 2113, which addresses the appropriateness of a rejection under 35 U.S.C. 102/103 for product-by-process claims.

Ogawa A et al. teaches a silver-based powder which is surface treated with a triazole-based compound/oxidation inhibitor (Derwent abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 4, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al. (JP 58-104970) in view of Kazumi et al. (JP 07-109501). For convenience, the certified English-language translation of Ogawa et al. provided by the McElroy translation company will

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be relied upon. For convenience, the English language machine-translation of Kazumi et al. will be relied upon.

Claims 3, 4, 14 and 15: Ogawa et al. teaches a method for treating a silver-based powder with an oxidation inhibitor by dissolving said inhibitor in a solvent such as acetone (an aliphatic solvent) followed by soaking the silver-based powder in the solution of inhibitor (bottom of p. 5-top of p. 6).

Ogawa et al. does not explicitly teach applying mechanical energy to the silver-based powder. However, Kazumi et al. teaches a method of treating silver powder by means of grinding using such tools as a ball mill, stamp mill, hammer mill, and vibration mill (paragraph 0016). These techniques are all mechanical based and some include crushing or rolling steps. Ogawa et al. and Kazumi et al. are combinable because they are from the same field of endeavor, namely, surface-treatment of silver-based powders. At the time of the invention, a person having ordinary skill in the art would have found it obvious to employ the mechanical techniques for silver-based surface treatment as taught by Kazumi et al. using the oxidation inhibitor surface treatment compounds as taught by Ogawa et al. and would have been motivated to do so in order to maximize the surface-treatment of the silver-based particles while minimizing the time of the surface-treatment. The presumed dipping method of Ogawa et al. is static and would thus take longer to provide for surface treatment versus the dynamic mixing methods taught by Kazumi et al.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al. (JP 58-104970) in view of Kazumi et al. (JP 07-109501) as applied to claim 3 above, further in view of Kleyer et al. (US Pat. 6,361,716).

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Ogawa et al., in view of Kazumi et al., collectively teach the process of preparing a silver-based powder surface treated with an oxidation inhibitor of instant claim 3, as described above. Ogawa et al. does not explicitly teach that the amount of oxidation inhibitor is present in an amount of from 0.01 to 2 parts by weight per 100 parts by weight of the silver-based powder. However, Kleyer et al. teaches a conductive silicone composition comprising silver powder having phenolic additives present, which serve as an oxidation inhibitor (abstract and 6:33-7:3). Kleyer et al. further teaches that the amount of phenolic additive is from 0.1 to 3 percent by weight, based on the total weight of the composition (7:4-30). Since the silver flakes can account for the majority of the total weight of the composition of Kleyer et al., it inherently follows that the amount of phenolic additive falls into the claimed range of instant claim 16. Ogawa et al. and Kleyer et al. are combinable because they are from the same field of endeavor, namely, compositions comprising silver-based particles treated with oxidation inhibitors. At the time of the invention, a person having ordinary skill in the art would have found it obvious to employ the oxidation inhibitor as taught by Ogawa et al. in the amounts as taught by Kleyer et al. and would have been motivated to do so because Kleyer et al. teaches that if the amount of oxidation inhibitor is less than 0.1 parts by weight, then the conductivity of the silver particles is not

Claims 5-10, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleyer et al. (US Pat. 6,361,716).

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Claims 5-9: Kleyer et al. teaches a curable silicone composition comprising: (A) an organopolysiloxane containing at least two silicon-bonded alkenyl groups per molecule (abstract), (B) an organohydrogenpolysiloxane having at least two silicon-bonded hydrogen atoms per molecule in an amount sufficient to cure the composition (abstract), (C) an electrically conductive filler such as silver (abstract), (D) an effective amount of a hydroxy-functional compound (abstract), such as hindered and unhindered phenols (6:33-7:3), and (E) a catalytic amount of a platinum hydrosilation catalyst (abstract). Kleyer et al. further teaches that the amount of electrically conductive filler can be present from 15 to about 80% by volume, which partially encompasses the claimed range of component (C) of instant claim 1. Kleyer et al. further teaches that component (B) is added such that there are from 0.5 to 5.0 mol of Si-H groups per mol of Si-alkenyl groups (4:1-13).

Kleyer et al. further teaches that the above components are mixed then cured, yielding conductive silicone rubber compositions (table 1 and examples 1-16). Kleyer et al. does not explicitly teach that the silver flakes are first treated with the phenolic oxidation inhibitor, yielding surface-modified silver flakes. However, it is implicit that the phenolic oxidation inhibitor, which is present along with the other starting materials (A) and (B) will interact with the silver flakes, forming a silver surface-treated composition. Support for this is found in Table 1 of Kleyer et al. which teaches that those compositions not having a phenolic additive (comparative examples 1 and 2 of Table 1) exhibited a marked increase in contact resistance than those samples which contained the phenolic additive (examples 11-13 of table 1). The contact resistance values are directly linked to the silver flakes present in the composition. A two- to three-fold reduction in contact resistance when a phenolic additive is present implies that the

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silver flakes have interacted with the phenolic additive, causing the significant reduction in resistance.

While Kleyer et al. does not explicitly teach that the hydroxy-functional organic compound is an oxidation inhibitor, it nevertheless follows that these materials are inherently capable of serving as oxidation inhibitors.

Claim 10: Kleyer et al. further teaches that the silicone compositions are useful as electroconductive coatings (2:10-16).

Claim 17: Kleyer et al. further teaches that the amount of phenolic additive is from 0.1 to 3 percent by weight, based on the total weight of the composition (7:4-30). Since the silver flakes can account for the majority of the total weight of the composition, it inherently follows that the amount of phenolic additive falls into the claimed range of instant claim 17.

Claim 18: Kleyer et al. further teaches that the amount of electrically conductive filler can be present up to 80% by volume, based on the entire volume of the silicone composition, which partially encompasses the claimed range of instant claim 18.

Relevant Art Cited

The prior art made of record and not relied upon but is considered pertinent to applicants disclosure can be found on the attached PTO-892 form.

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Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Loewe whose telephone number is (571) 270-3298. The examiner can normally be reached on Monday through Friday from 5:30 AM to 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./
Examiner, Art Unit 1796
28-Jan-08

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1712